IN THE CLAIMS:

Claim 1 (previously presented) A recombinant nucleotide sequence of expression cassette OXY-1 of SEQ ID No. 1.

Claim 2 (currently amended) A recombinant nucleotide sequence that encodes staphylokinase SAK-2 protein~~, the nucleotide sequence comprising nucleotides 13-409~~ of SEQ ID NO: 3 ~~No. 2~~.

Claim 3 (withdrawn) An amino acid sequence of recombinant staphylokinase SAK-2 protein of SEQ ID No. 3.

Claim 4 (previously presented) A plasmid as claimed in claim 28, wherein the plasmid is plasmid pRM1 contained in *E. coli* of International Deposition No.5146 in the "Microbial Type Culture Collection" at Institute of Microbial Technology, Chandigarh, India.

Claim 5 (previously presented) A plasmid pOXYSAK-1 contained in *E. coli* of International Deposition No. 5147 in the "Microbial Type Culture Collection" at Institute of Microbial Technology, Chandigarh, India.

Claim 6 (previously presented) A plasmid pOXYSAK-2 contained in *E. coli* of International Deposition No. 5148 in the "Microbial Type Culture Collection" at Institute of Microbial Technology, Chandigarh, India.

Claim 7 (previously presented) A recombinant *E. coli* of International Deposition No. 5146, in the "Microbial Type Culture Collection" at Institute of Microbial Technology, Chandigarh, India.

Claim 8 (previously presented) A recombinant *E. coli* of International Deposition No. 5147, deposited in the International Depository ~~is~~ "Microbial Type Culture Collection" at Institute of Microbial Technology, Chandigarh, India.

Claim 9 (previously presented) A recombinant *E. coli* of International Deposition No. 5148, deposited in the International Depository is "Microbial Type Culture Collection" at Institute of Microbial Technology, Chandigarh, India.

Claim 10 (withdrawn) A process for over-producing staphylokinase and its analogues by modulating oxygen level, said method comprising the steps of:

a. isolating a staphylokinase gene encoding an SAK protein,

b. modifying codons in the gene encoding Lys6 and Lys8 residues present at an amino-terminal end of the SAK protein to obtain a modified DNA,

c. providing the recombinant nucleotide sequence of expression cassette OXY-1 as claimed in claim 1,

d. integrating the modified DNA obtained in step (b) with the recombinant nucleotide sequence of expression cassette OXY-1 to obtain a product comprising pOXYPRO,

e. integrating the product obtained in step d with plasmid vector PRM 1 to obtain plasmid constructs pOXYSAK-1, and pOXYSAK-2 respectively,

f. introducing the plasmid constructs of step (e) into a host system,

g. culturing the host cell for over-production of SAK or its derivatives under high aeration and changing level of oxygen below 5% of atmospheric oxygen level when cell growth reaches to exponential phase to obtain cell mass,

h. lysing the of the cell mass cells of step (g) to separate cell lysate from cellular debris, and thereby obtaining the staphylokinase and its analogues.

Claim 11 (withdrawn) A process as claimed in claim 10, wherein the Lys6 and Lys8 residues of the SAK protein are changed into small and neutral amino acid residues.

Claim 12 (withdrawn) A process as claimed in claim 10, wherein the plasmid vector is a high or medium copy number plasmid.

Claim 13 (withdrawn) A process as claimed in claim 10, wherein the host system is selected from the group consisting of *E. coli*, Bacillus, and Yeast.

Claim 14 (withdrawn) A process as claimed in claim 10, wherein the sequence of OXY-1 is modified depending upon the host system.

Claim 15 (withdrawn) A process as claimed in claim 11 10, wherein the amino acid residues are selected from the group consisting of Alanine, and Glycine.

Claim 16 (withdrawn) A process as claimed in claim 10, wherein the culturing is in growth medium comprising Luria Broth (LB) medium.

Claim 17 (withdrawn) A process as claimed in claim 10, comprising culturing the host cell for over-production of SAK or its derivatives at shake flask culture or at fermentation.

Claim 18 (withdrawn) A process as claimed in claim 17, comprising culturing the host cell till $O.D._{600}$ reaches 0.6 to 0.7.

Claim 19 (withdrawn) A process as claimed in claim 17, wherein the fermentation is a two-stage fed-batch fermentation.

Claim 20 (withdrawn) A process as claimed in claim 10, comprising obtaining the cell mass by centrifugation or filtration.

Claim 21 (withdrawn) A process as claimed in claim 10, wherein the lysing of the cells is by a method selected from the group consisting of sonication, chemical, and mechanical lysis.

Claim 22 (withdrawn) A process as claimed in claim 10, comprising separating the cell lysate from the cellular debris by centrifugation.

Claim 23 (withdrawn) A method of dissolving a blood clot in a subject in need thereof, said method comprising the step of administering a pharmaceutically effective amount of streptokinase analogue SAK-2, optionally along with additive(s).

Claim 24 (withdrawn) A method as claimed in claim 23, wherein the additive is selected from a group comprising nutrients consisting of proteins, carbohydrates, sugar, talc, magnesium stearate, cellulose, calcium carbonate, starch-gelatin paste, and/or pharmaceutically acceptable carrier, excipient, diluent, or solvent.

Claim 25 (withdrawn) A method as claimed in claim 23, wherein the SAK-2 and additives are in a ratio ranging between 1:10 to 10:1.

Claim 26 (previously presented). A recombinant nucleotide sequence of claim 2, wherein the nucleotide sequence comprises nucleotides 1-582 of SEQ ID NO: 2.

Claim 27 (previously presented). A recombinant nucleotide sequence of claim 26 consisting of nucleotides 1-582 of SEQ ID NO: 2.

Claim 28 (previously presented). A plasmid comprising the recombinant nucleotide sequence of claim 1.